

CLAIMS:

1. A powder metal cladding nozzle which is coaxially attached to a laser processing head that irradiates a process portion with a laser beam and that discharges powder metal to a laser beam irradiation portion in the process portion, comprising
 - 5 a body portion that has a ring-shaped powder metal holding space in which the powder metal is held; and
 - 10 a nozzle portion that is connected to the body portion and that has plural discharge passages which are communicated with the powder metal holding space and which open at an outlet for discharging the powder metal, wherein
 - 15 the powder metal holding space is formed in the body portion and is divided into plural powder metal holding regions corresponding to plural supply passages that open into the powder metal holding space and that supply the powder metal to the powder metal holding space.
2. The powder metal cladding nozzle according to claim 1, wherein
 - 15 the body portion includes an outer side member and an inner side member which is fitted in the outer side member,
 - 20 the powder metal holding space is formed by fitting the inner side member in the outer side member, and
 - 25 the inner side member includes a dividing portion for dividing the powder metal holding space into the plural powder metal holding regions.
3. The powder metal cladding nozzle according to claim 2, wherein
 - 25 the inner side member includes the dividing portion and an inner side body portion, and
 - 30 the dividing portion is attachable to/detachable from the inner side body portion.
4. The powder metal cladding nozzle according to claim 2 or 3, wherein
 - 30 the dividing portion includes plural dividing members, and
 - 35 widths of the powder metal holding regions are adjusted by adjusting distances between the adjacent diving members among the plural dividing members.
5. The powder metal cladding nozzle according to any one of claims 1 to 4, wherein

the nozzle portion includes an outer side nozzle member and an inner side nozzle member having plural groove portions in an outer surface, and

the discharge passages are formed by fitting the inner side nozzle member in the outer side nozzle member.

5

6. The powder metal cladding nozzle according to claim 5, wherein

the inner side nozzle member is fitted in the outer side nozzle member such that an end of the inner side nozzle member is retracted with respect to an end of the outer side nozzle member by a predetermined amount in an axial direction of the nozzle portion.

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7. The powder metal cladding nozzle according to any one of claims 1 to 6, wherein

the supply passage is communicated to the powder metal holding region at a central portion of an arc of the powder metal holding region such that the powder metal is supplied to the powder metal holding region toward a center of the arc.